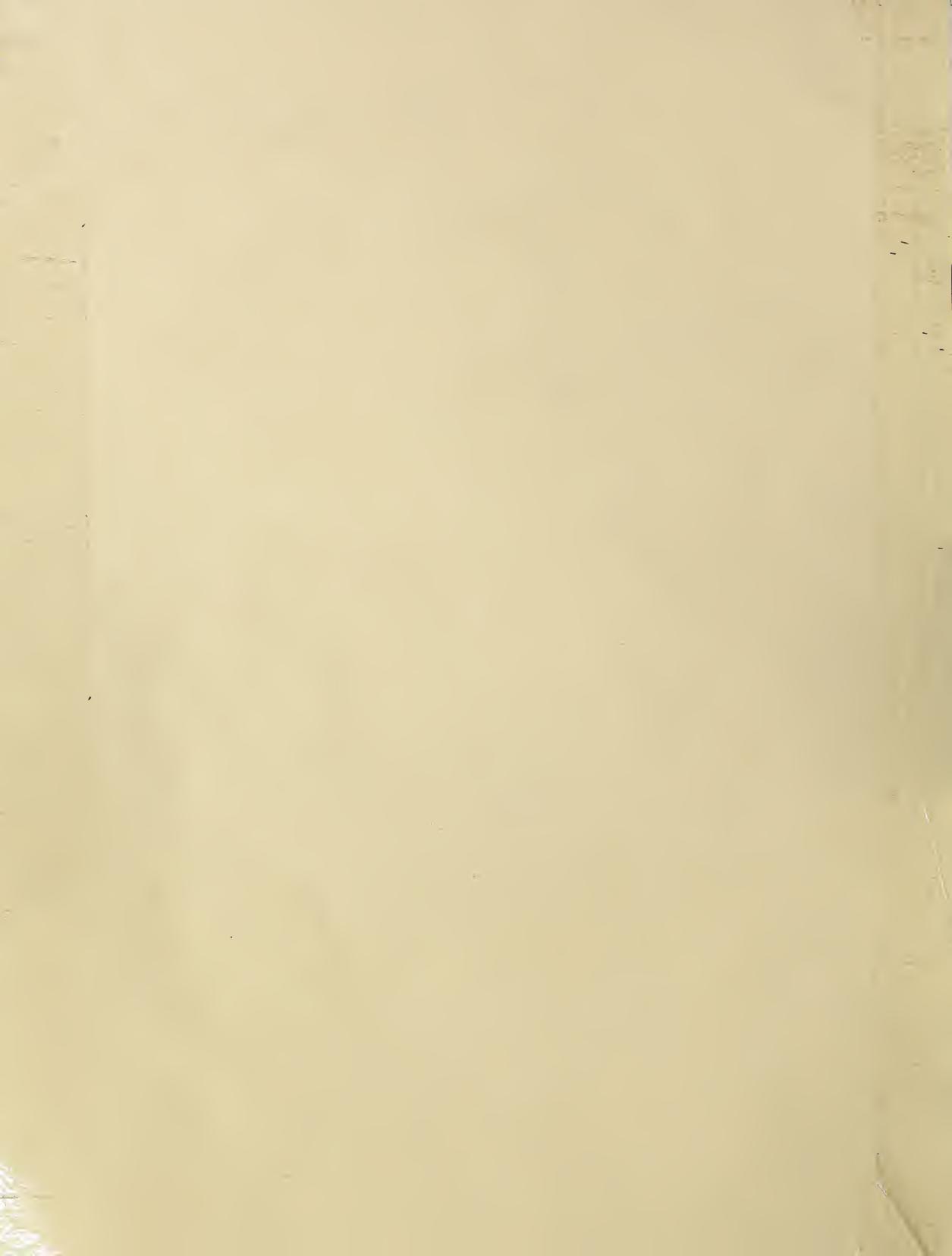


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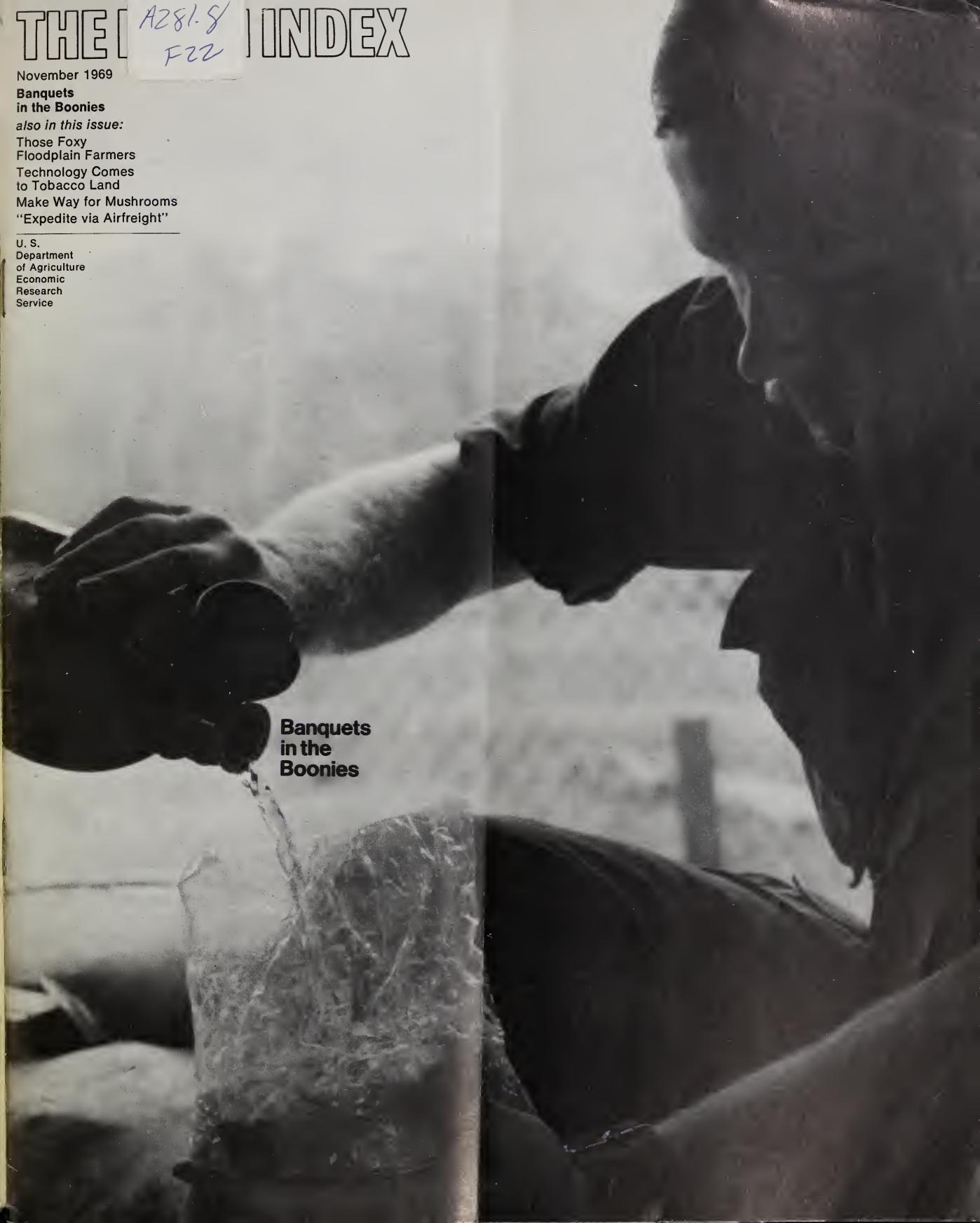
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## THE AGRICULTURAL OUTLOOK

*To market, to market.* There aren't as many hogs to be sold this season as there were a year ago, according to the September Hogs and Pigs Report.

The 10 Corn Belt States—where about three-fourths of the Nation's hogs were raised in 1968—had 6 percent fewer market hogs on farms this September 1 than a year earlier. And there were 9 percent fewer hogs weighing 60–180 pounds. This is the group that normally wends its way to market in November and December.

Fall slaughter is expected to run only about 10 percent ahead of the summer—lagging behind the usual increase of 15 to 25 percent. No likelihood of a pickup over first half 1969 is foreseen for early 1970. As of September, the Corn Belt had 2 percent fewer hogs in the under-60-pound weight group this year than last. These animals make up the bulk of winter supplies. And slaughter in the spring of 1970 will reflect an expected decline of about 1 percent from a year ago in the number of pigs born during September–November.

*Home again, home again.* The small supplies and strong consumer demand are enabling pig producers to sell hogs for \$4 to \$6 per 100 pounds above prices a year ago.

Hog prices throughout 1969 have been well ahead of last year. In late August barrows and gilts at eight markets peaked at \$27.40 per 100 pounds—up more than \$7 from a year earlier and the highest summer peak since 1948. Now, of course, prices are in a seasonal decline. But all indications are that they'll continue strong well into 1970.

*Corn's contribution.* The hog-price ratio traditionally has been the tipoff to what's ahead in hogs. If corn is cheap relative to hog prices, the

ratio is favorable. It's favorable now and is likely to stay well above average in the first half of 1970. This should augur for more sows to be bred in the coming months and a boost in hog slaughter in the second half of 1970.

Forecasters haven't been able to put too much faith in hog-feed figures this year, however. The ratio has been high throughout 1969. It hit 22 in August—a record for that month. Nevertheless, hog production this year has slipped. Factors other than hog-feed price relationships apparently have played a major role in 1969's cutback. And livestock specialists have noted that in recent years it has taken higher and higher ratios to trigger production expansion.

*Hogging the export honors.* Pork has been the leading light in the U.S. meat export story for 1969. Meat exports in the first 8 months—totaling 131 million pounds (carcass weight equivalent)—were more than double the volume in the same period of 1968. Pork exports accounted for nearly 80 percent of the red meat shipments and were almost three times as large as last year.

Much of the increase in our pork trade has been with Japan. In the first 8 months of 1969, the Land of the Rising Sun took 33.4 million pounds of U.S. pork (product weight), compared with 2.7 million pounds during the corresponding 1968 period. Exports to Japan comprised more than one-third of our total 1969 pork exports through August.

*Other red meats.* Rounding out the rest of the red meat production picture: Fed cattle marketings during October–December are expected to be larger than last year with relatively stable prices. However, the slaughter lamb supply is down and prices will be up from 1968.

*More cattle on feedlots.* As of October 1, reports from 22 States indicate that 10 percent more cattle and calves were on feed than a year earlier, with western feedlots showing most of the growth. This upward trend can be expected to continue.

## THOSE FOXY FLOODPLAIN FARMERS



*Farmers planting the floodplains court disaster annually. A computer study of one area helps farmers cut risk, evaluate crop patterns and flood control costs.*

It may seem foolhardy to plant crops in an area where floods could sweep them away before harvest.

Yet many farmers are doing it . . . and making money at it, too.

They find the returns from planting in rich black bottomland far outweigh the risks involved.

But, according to findings of Oklahoma State University and Economic Research Service economists floodplain farmers in the

Nuyaka Creek Watershed area of Oklahoma could be making even more money, if they would switch their cropping patterns on some of the land subject to flood damage.

These economists were specifically interested in assessing local costs of flood protection; learning what annual premiums for flood insurance should be; and what crops would bring the most returns.

They picked the Nuyaka Creek Watershed because it was a floodplain area containing no dikes, levees, or other flood control devices.

About 4,000 acres were included in the area under study.

Gross farm returns in the area run around \$55,000 a year, while annual flood damage averages about \$12,000.

A flood control system, already approved by Congress, should reduce flood damage costs to around \$5,000 a year when authorized and implemented. Under the plan, each farmer would be assessed for flood control costs according to the amount of protection he receives.

Indicated present crop insurance premiums range from about \$58 to \$163 for a 5-acre field, depending on flood hazard conditions.

With flood control, the premiums would be reduced to about

\$5 for the safest fields and to about \$62 for the most hazardous.

Under present conditions—that is, no flood control and current price supports on crops—floodplain farmers could probably make better use of about 2,700 acres of land if they change their cropping patterns.

Essentially this would entail a switch from small grain crops and woodland and native pasture to cotton and peanut production—a switch that could boost net returns from the current \$13,000 level to almost \$150,000.

However, because of the increased value of crops, average flood damage losses could be expected to increase from the current \$12,000 level to almost \$56,000.

With the flood control system in effect as planned, even more acreage would be likely to go into peanut and cotton production, and net returns would rise over \$188,000. Flood damages would also probably go up more than \$30,000.

Another alternative in the model excludes cotton and peanuts because of marketing restrictions. In this event the picture would shape up like this:

For best land use, 2,700 acres that are now mostly woodland and native pasture, would be converted to soybeans and alfalfa.

Of these two crops, alfalfa is better than soybeans in areas of highest flood hazard because of its greater tolerance to water. But in safer areas, soybeans outrank alfalfa in net returns.

Without either flood control or price supports, net returns with this cropping change on 2,700 acres would still be increased from almost \$13,000 to almost \$81,000. And average annual flood damage would rise, from about \$12,000 to almost \$30,000.

Adding flood control only, and not support payments, would increase net returns by about \$87,000, and flood damages by about \$14,000 (1).

## Output Per Man-Hour in Dairying Doubles During the Past Decade

Cows and their keepers are getting more efficient every year.

Milk output per hour is more than twice as high today as it was in the late 1950's.

Responsible for the sharp increase: the exodus of less productive farms from the milk business; substantial inputs of capital in labor-saving equipment; and improved dairy cattle and better management practices which have increased milk production per cow.

A cow today produces one-third more milk than her counterpart of 10 years ago—as a result of improved breeding, feeding, and management.

Meanwhile, today's dairy farmer needs one-third less time than he used to in caring for his cows. It took him about 17 minutes daily per animal to tend a milk cow during 1957-59. In 1968, the time spent was down to only 12 minutes.

(These averages are based on the average number of cows milked during the year, and exclude time dairy farmers spent in raising feed and caring for herd replacements.)

Rises in output per-manhour in dairy farming compare favorably with gains in other agricultural enterprises.

Output per man-hour in dairying rose 104 percent from 1957-59 to 1968, while the increase for all farmwork was 82 percent. During the past 10 years, only poultry, feed grains, and cotton had efficiency increases topping the gain for dairy farming.

Greater use of artificial insemination in dairy herds has contributed substantially to increases in milk output per cow.

In 1968, about half of the dairy cows in the United States were bred artificially, a total of 7.1 million cows.

Among States, the proportion ranged from 16 percent in South Dakota to 81 percent in Florida.

Artificial breeding has been on the uptrend in this country for the past couple of decades. Back in 1947 around 1.2 million dairy cows were artificially inseminated—only about 4 percent of the herd total. (2)

## Dairymen Cull Cows To Cope With Regional Shifts in Milk Production

It used to be that bossy could feel reasonably safe in the dairy herd as long as she produced plenty of milk.

Now she can't be so sure of her tenure because slaughter cow prices are up.

The average number of milk cows in the United States dropped 28.8 percent between 1949 and 1964 and another 16.9 percent from 1964 to 1968.

And some of the cows culled from herds might have been kept under different circumstances.

In addition to higher cattle prices, bossy's precarious position is caused by the tough competition dairying is getting both from other farming opportunities and from nonfarm industries with rapidly rising wage rates.

The milk cow—and the dairy farmer—chalked up their biggest output in 1964.

Combining efforts, they squeezed out 127 billion pounds of milk—the most ever produced in a single year.

Since that production peak, annual milk output has dropped almost 10 billion pounds—or about 2 percent a year.

Average milk prices received by farmers rose 27 percent from 1964 to 1968, with the largest gains going to farmers in the Lake States, Corn Belt, and Northern Plains.

Farm cash receipts from dairying in 1968 were up 19 percent from 1964.

Farm sales of milk and cream in 1968 represented about 13 1/2 percent of total farm cash receipts, the same proportion as in 1949.

Along with the annual fall-off in total milk output, there's been a move toward less regional concentration of production.

As production dropped in the important Corn Belt and Lake States, it gained in the western and southern areas of the United States.

For 20 years now, milk output in the western States has been growing to meet the rising requirements of an increasing population with climbing individual incomes.

Similarly, above-average gains in population have boosted both demand and production in States of the southeast and southwest United States.

Dairying is competing with opportunities that have been more favorable in recent years both in farming and in nonagricultural pursuits.

Higher beef cattle prices have caused dairy farmers to cull their herds closely. Some have sold all their dairy cattle and left dairying for other occupations.

Because of rapid gains in crop technology and rising labor costs in dairying, many dairy farmers have turned to either cash crop or beef cattle farming which require less year-round labor. Others have turned to off-farm employment.

As a result, from 1964 to 1968 dairy cow numbers in all regions dropped off.

This includes the Northeast and Lake States Regions where dairying is most highly concentrated. But even so, these regions will probably continue to be the most important U.S. dairy areas.

At the same time, the South and West may boost their share of total U.S. milk output. Dairying in the Corn Belt and Northern Plains will probably continue to decline. (3)



## *Men and Milestones*

### SCHOOLMASTER OF U.S. AGRICULTURE

*At the age of 70, after a lifetime of work in the agricultural field, Seaman Asahel Knapp embarks on the project for which he is later to be best known—demonstration farming. It is 1903 and the Mexican boll weevil devastation has thoroughly alarmed Southern farmers. Working with the U.S. Department of Agriculture, Knapp uses practical farming methods to produce a profitable crop in spite of the weevil. From this modest beginning comes the USDA's and the land grant universities' highly effective county agent system of promoting new farm techniques all over America.*

\* \* \*

With almost a decade of teaching experience in New England behind him, Seaman Knapp pulled up stakes and moved West to Vinton, Iowa, in 1866.

There he was successively pastor of the Methodist Church

and director of the school for the blind. At the same time, he wrote for the *Farmers' Journal* and organized the local Grange and a livestock breeders association.

By 1877, he was teaching practical farming at Iowa Agricultural College, where he later became president.

Moving on to Louisiana in 1885, his attention was drawn to the problems of cotton and rice farmers, and he published a paper for rice growers. Twice—in 1898 and in 1901—he was sent to the Far East by the USDA to find new rice varieties.

With a privately financed demonstration project at Terrell, Texas, in 1903 Knapp showed cotton farmers that a more varied farming pattern could be profitable. And out of this grew his work with the USDA in developing the county agent system.

As a result of his lifelong interest in teaching better farming methods, Seaman Asahel Knapp has been called the "schoolmaster of American agriculture." (4)

## Egg Incomes Break Upward For New Jersey Producers in 1968

New Jersey egg producers had a sharp increase in income last year.

Net income per egg farm in 1968 was way above the \$1,115 of 1967, also up from the \$3,415 average of 1960-64, but still averaged only \$4,660.

A rise of 4.4 cents a dozen in the price received for eggs was the main reason for the relatively favorable '68 returns. Other factors were an 11-cent decrease in the price paid per hundredweight for feed, a modest increase in the size of the laying flock, and higher prices for cull layers.

In 1968 New Jersey egg producers grossed about 12 percent more than in 1967, while total operating costs declined slightly.

Receipts from the sale of eggs

averaged about \$29,450 per farm in 1968. Except for 1966, the 1968 receipts were the highest in 15 years.

Virtually all of the cash receipts on New Jersey egg farms come from the sale of eggs. The only other source is the sale of cull layers, which averages 2 percent of total receipts. (7)

## Innovative Cotton Farmers Bale More Money for Their Efforts

Keeping up with technological advances is one way the cotton farmer may better cope with declining prices and rising production costs.

Two ERS studies—one of the Southwestern Coastal plain in Georgia, and the other of the Mississippi Delta area—indicate some ways that cotton growers

might take advantage of technical innovations.

In the Mississippi Delta area, it was found that performance rates for six-row equipment pulled by 45 to 60 horsepower tractors were 45 to 65 percent higher than for four-row equipment with the same tractor.

Savings per acre of cotton varied from \$3.50 to \$5.00 for items such as fuel, oil, repairs, and labor. If fixed costs for depreciation and interest on investment were included, the savings came to as much as \$9.50 per acre.

The investment in farm machinery could be reduced by 25 to 35 percent on farms with 600 or more acres of cropland. And 30 percent fewer workers would be needed, since each worker could handle up to 52 more acres.

Direct production costs were reduced by as much as \$10.10 per acre if—along with the six-row machinery—farmers used the most advanced and economical seedbed methods (flat bedding with fertilizer applied with a chisel plow), and the best weed control systems.

For the cotton farmer in the Southwestern coastal plain in Georgia, use of "innovative techniques" were coupled with appreciable increases in cotton production and farm income on both large and small farms—even within allotment restrictions.

Some of these techniques were:

- Planting in the plant-two-rows, skip-one-row pattern rather than planting solidly.

- Using more lime, fertilizer, herbicides, and pesticides.

- Planting higher quality, improved seed varieties.

- Using a 50- to 64-horsepower tractor and four-row machinery on small farms, and six-row machinery on large farms.

- Allotting as much land and resources as possible to peanuts as an alternative crop, and selecting corn rather than soybeans or oats as a third crop. (6)

**BRINGING IN THE BOLL.** Mechanical harvesters are bringing in a large part of the 1969 cotton crop this month. Nearly all of the upland cotton produced in the United States today is mechanically harvested. In 1968, 96 percent of the crop was machine picked, stripped, or scrapped—a rise of 2 percent from 1967 and 7 percent from 1966. The highest percentage of mechanization was in the West—California and Arizona—where practically the entire crop was machine harvested. Alabama—with 84 percent—showed the least mechanization. (5)

Location	Harvested by hand <sup>1</sup>			Harvested mechanically <sup>2</sup>		
	1966	1967	1968	1966	1967	1968
Percent						
Alabama	25	19	16	75	81	84
Arizona	2	—	—	98	100	100
Arkansas	13	7	4	87	93	96
California	2	—	—	98	100	100
Florida	11	3	2	89	97	98
Georgia	20	11	12	80	89	88
Louisiana	12	7	4	88	93	96
Mississippi	18	13	7	82	87	93
Missouri	6	4	4	94	96	96
New Mexico	5	9	3	95	91	97
North Carolina	29	20	10	71	80	90
Oklahoma	5	2	1	95	98	99
South Carolina	27	27	12	73	73	88
Tennessee	28	17	13	72	83	87
Texas	5	3	2	95	97	98
United States	11	6	4	89	94	96

<sup>1</sup> Picked and snapped. <sup>2</sup> Machine picked, stripped, and scrapped.

## Technology Comes to Tobacco Land

*Still one of agriculture's most labor-intensive crops, tobacco may, like cotton, become mechanized. And tobacco field workers could vanish like the cigar store Indian.*

The scene is a tobacco field, warm and placid in the morning sun. At one end a new harvesting machine begins moving down the rows doing the work of many field hands.

Though rare today, this scene

could become commonplace on tobacco farms in years ahead—with tremendous implications for residents of the tobacco belt areas of several southern States.

However, several obstacles stand in the way of widespread adoption of such a system. Tobacco production units are typically too small to justify the large investment necessary to accomplish this degree of mechanization. Uncertainty about the future demand for tobacco is also



a deterrent to investing in expensive specialized tobacco equipment.

Full-scale use of tobacco harvesting machines and curing barns now operational could eventually slash in half the number of man-hours needed to produce flue-cured tobacco.

In 1967 flue-cured accounted for about 60 percent of the total 480 million man-hours required for the entire U.S. tobacco crop.

About 84,000 commercial farms—which support some 350,000 persons—grow flue-cured tobacco in Virginia, North Carolina, South Carolina, Georgia, and Florida.

Widespread adoption of the new machines, if it comes, would drastically alter not only tobacco farm enterprises but the lives of the people who live and work on these farms as well.

Mechanization of flue-cured tobacco could make a sizable dent in tobacco production costs and improve the U.S. competitive position in world markets.

But to the individual tobacco farmer it means an investment of about \$50,000 in equipment—more than \$10,000 for the automatic harvester and around \$40,000 for mechanized curing barns.

Unless a farmer grows 40 or more acres of tobacco, though, it is usually cheaper for him to continue using hand labor. Most tobacco farms aren't anywhere near this big.

Nearly 90 percent of the approximately 195,000 U.S. flue-cured tobacco allotments in a recent year were 6 acres or less in size and less than 1 percent were larger than 20 acres. The average was 3 acres.

The typically small size of tobacco production units is due in large part to government programs which limit acreage and production and restrict leasing and rental of tobacco allotments.

For the typical tobacco farmer of today, then, adoption of this

mechanized system would not pay even if he could afford it.

In addition, tobacco farmers have been reluctant to invest heavily in equipment because of the uncertainty about tobacco demand.

Efforts of public and private agencies to curb smoking—and changing manufacturing techniques which have reduced the amount of tobacco used per cigarette by about a fourth since the mid-1950's—are important aspects of the demand picture.

The USDA projects domestic demand in 1975 will be no greater than in 1968 despite an expected increase in the adult population.

One of the groups hardest hit by mechanization would be tenant farmers. Over 45 percent of flue-cured tobacco belt farms are run by tenants. They and their families make up over half the people in the flue-cured tobacco growing business.

Many would be displaced by machines and would very likely have difficulty finding other employment. Their average age is 47 years, 10 years older than that for the total U.S. work force.

Two-thirds of the tenant farmers are Negro. Many seasonal workers are women and children who help supplement the family income. And the educational attainment of the laborers is low.

Welfare and retraining programs in the affected areas will be imperative if mechanization releases workers and marginal farmers.

Other changes expected from mechanization include:

—A shift from unskilled to skilled labor to operate the new equipment.

—Consolidation of small farms into large ones for profitable use of machines.

—Tobacco grown in hilly areas, as much of it now is, would eventually be shifted to flat areas more suitable for mechanical harvesting. (8)

## Who Moves to Ozarks and Why Intrigues Economic Researchers

The rattle of a car on an Ozark road was an ominous noise during the 1930's. It meant another family had decided to pack up and move away.

For much of the 1940's and the fifties, too, outbound cars made up most of the traffic on this depressed region's roads.

But recently a good many autos have been heading into the Ozark Region. And economists and sociologists in ERS and the Universities of Missouri and Arkansas are making a careful study of their passengers.

How old are the people moving into the Ozarks? What skills and training do they bring? In what ways do they differ from long-time residents of Ozark communities?

The researchers questioned families that had moved into four Ozark communities since 1960. Each area had a slightly different economic base—and appealed to a slightly different type of family.

Branson, a recreation and retirement community in the south central Missouri Ozarks, attracted the highest proportion of professional and managerial workers of any of the four areas.

Two of every five new families were headed up by persons who'd worked in white collar fields. This was in sharp contrast to the proportion of professionals who made up the population before 1960. A sampling of the oldtimers showed only 1 in 20 were white collar workers—the lowest percentage in any of the four communities.

But not all the professional talent moving into Branson was being put to use. Over one-third of the community's immigrants were retired. And two-fifths were 60 or over—obviously pushing retirement age if they hadn't quit work already.

Monett, a light industrial and

agricultural community near Branson, attracted a far smaller proportion of professionals. Only 24 percent of the newcomers worked in white collar fields. But this was still higher than the 14-percent professional representation in the longtime residential community. Also, not so many of Monett's new families were near retirement age.

Blue collar workers gathered in greatest numbers in two other Ozark communities: Rogers—an agricultural, light industrial, and recreational area in northwest Arkansas; and Springdale—a more intensive agricultural and industrial area nearby.

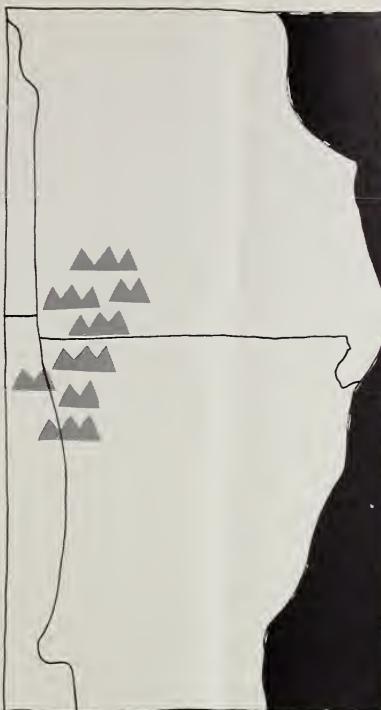
As a rule, about 1 in 3 of the new families in these two communities were headed by craftsmen and operatives—an occupational ratio not much different than that of the population settling in these two communities before 1960.

Compared with Springdale, however, Rogers drew a lot more retired immigrant families and more over-60 newcomers. Only 10 percent of those who'd moved into Springdale since 1960 were fully retired. And Springdale attracted the youngest new residents of all four communities. Seventy percent were under the age of 50.

Generally, the people who had moved into these four Ozark communities since 1960 were better educated than the oldtime residents.

Most of the immigrants had at least a high school education, which was not the case with the longtime residents of Branson, Monett, and Rogers.

And in Branson and Springdale, one-third of the new residents had attended college, compared with only 5 percent and 18 percent, respectively, of these two communities' "permanent" populations. Monett had the lowest proportion of college attendees in its nonmigrant populace, 2 percent. But 21 percent of the area's new residents since 1960 were



college educated.

Income differences between the newcomers and the oldtimers were even more striking. Most of the families that moved into the area since 1960 had median household incomes well above those of the families who'd lived longer in the Ozarks.

Springdale was an exception. Here, it was the oldtimers who were fairly well off. The median household income there was \$7,200 annually, compared with \$6,900 for the younger incoming people who were trying to get established. One-third of both the new and the longtime residents reported annual household incomes above \$9,000.

One of the things the researchers discovered was that not all of the new residents since 1960 were new to the Ozark Region. Many had been born and raised there. They'd moved out sometime in their mid-20's—but were drawn back in later years.

Generally, the returnees were about as well educated as the true

Ozark newcomers. And surprisingly, fewer were elderly.

However, their incomes tended to be a little lower and their share of representation in professional occupations was a little less than the immigrants who'd never been in the Ozarks prior to 1960.

Some of the Ozark returnees in the "over-60" group doubtless recall those dismal days of the 1930's. They may well have been part of that outbound traffic. But now they're coming home to where their hearts have always stayed. (9)

## Rural Area With Leaky Economy Loses Some Development Benefits

When a dollar bill is old and rumpled and grimy, it's obviously seen lots of use. So, even though it bears only a \$1 imprint, it has probably bought hundreds of dollars of goods and services for its many owners.

It's unfortunate that histories of dollar bills like this aren't recorded, because they're closely tied to the economic development of rural communities in the United States.

Planners need to know just how many times a dollar will be spent and where it will be spent to gauge the impact of any development on area residents' income.

In developed economies—ones that are relatively self-sufficient in terms of providing most of their own goods and services—dollars can be spent many times in the local area.

Consumers buy from local retailers who buy from local manufacturers who buy from local farmers who buy from local agribusiness firms who employ local workers who start the process all over again. It's not unusual for \$1 to get spent many times over in such a community before someone breaks the cycle and buys something outside the local area.

But in less developed areas—

particularly rural ones which lack a substantial manufacturing or service industry base—a dollar rarely makes so many rounds. In fact, ERS economists caution planners against assuming that \$1 will turn over more than twice within most rural areas.

Consumers in less developed economies still tend to buy what they want from local retailers. But these merchants often have to get their supplies from manufacturers outside the area. This creates a leakage or drain of income benefits from the disadvantaged area. And while the dollars that leak out still go on to other rounds of spending, they don't generate more trade for local businessmen within the depressed area from which they escape. (10)

## Poor Face Future Pessimistically; Youth, Negroes Most Ambitious

Do you agree with the following statements:

—Even if a family objects, a man should choose a job that he thinks is best for him.

—There's little use writing to public officials because they aren't really interested in the problems of the average man.

—It's hardly fair to bring children into the world with the way things look for the future.

—Nowadays a person has to live pretty much for today and let tomorrow take care of itself.

—In spite of what some people say, the lot of the average man is getting worse, not better.

—These days a person doesn't really know on whom he can count.

The same questions were posed to 1,249 heads of households in the Mississippi Delta Region—some poor, some affluent. ERS researchers wanted to discover if the poor were more pessimistic about their chances for bettering their lives than the affluent. It

turned out they were. Did this pessimism block them from attempting to escape their economic plight? Surprisingly, it didn't stop them from trying.

The same people who answered the above questions were asked still others:

—Would you take courses for education or special training if they were available free of charge? If you were paid for doing so?

—Would you change your occupation for a better paying job if you could continue to live here in this community?

—Would you be interested in changing to an other field of work at higher pay if you had to move at least 50 miles away? 200 miles?

Poverty status had no bearing on the Delta residents' response to these questions. The persons most willing to take free training courses or make a 200-mile move were just as apt to be poor as affluent. But regardless of their financial status, these people were generally young rather than old, married more often than single, and Negro more frequently than white. Most headed up rather small families and had at least a sixth grade education.

The persons who showed the greatest reluctance to alter their lives were Negro female family heads. Many of these women were poor, but it appeared their family responsibilities hampered them more than poverty. (11)

## Tax Break to Fringeland Farmer Doesn't Prevent His Selling Out

Nearly one third of the States have adopted differential property assessment laws within the past 10 years. These adjustments have been made at phenomenal speed compared with the creepingly slow rate that property tax institutions traditionally change in this country.

As cities expand, property values rise on the fringes. And as property values rise so do taxes. Yet many of the farmers who own this land and must pay the high taxes receive little or no more cash income.

Pressure for some sort of relief builds up and farmers often get the support of city folks who see farming as a way of preserving open space around the city.

Others, both farmers and non-farmers, want tax relief because they are holding fringeland property for conversion into a housing development or shopping center in the next few years.

In trying to help the farmer, the States have, in general, taken three approaches:

*Preferential assessment.* Land devoted to agricultural use is assessed on the basis of its value in that use, and market values reflecting potential uses such as housing projects are ignored.

*Deferred taxation.* A farmer's land is taxed on the basis of its value in agricultural use. When the owner sells the land for non-farm purposes, a "roll-back" tax equal to the additional taxes he would have paid on the full value of his land, is levied for the year in which land use changes and the 2 to 5 years preceding.

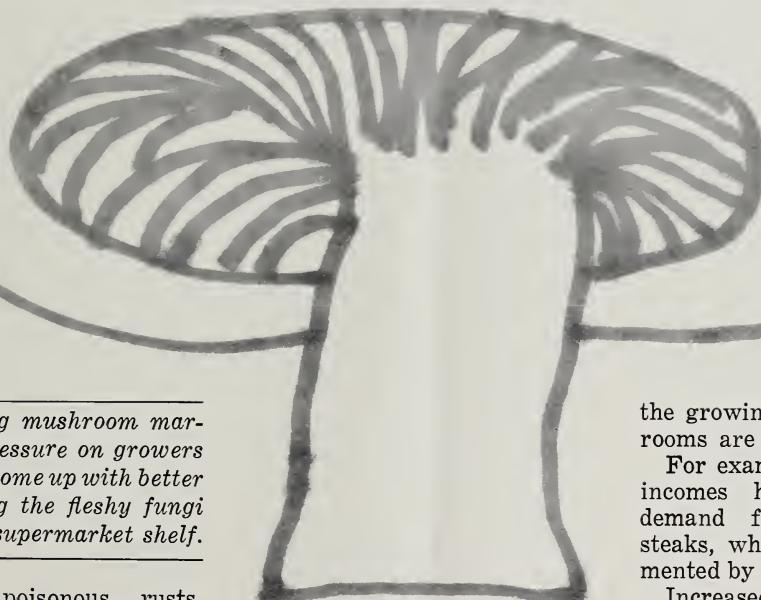
*Restrictive agreement.* The landowner and the local government sign an agreement under which the landowner keeps the land for agricultural use for 5 to 10 years in return for lower property tax assessments during the period.

Experience has shown, however, that you can give a farmer these tax breaks but you can't keep him from selling out.

It's questionable, for example, whether tax reductions would loom large in a farmer's decision when he is offered \$5,000 to \$7,000 an acre (the average 1963-65 prices for land closest to Washington, D.C.) for his land.

Tax concessions are only one deterrent to a farmer's sale of land to a developer. (12)

# Make Room For Mushrooms



*A mushrooming mushroom market puts the pressure on growers and packers to come up with better ways of getting the fleshy fungi from cellar to supermarket shelf.*

Shun the poisonous rusts, smuts, and puffballs for the tasty chanterelles, champignons, and morels.

This is the good advice offered to anyone with an affinity for "fleshy fungi"—commonly known as mushrooms. Appetite for the edible varieties has been increasing at the rapid rate of almost 5 million pounds a year.

We ate 38 million pounds of mushrooms in 1930; 44 million pounds in 1940; 68 million pounds in 1950; 117 million

pounds in 1960; and 225 million pounds in 1967-68.

At the same time, the individual's "mushroom quota" went from .31 pounds in 1930 to 1.12 pounds in 1968.

As the U.S. population grows, and if consumption trends continue, by 1985 total U.S. mushroom use could increase to 522 million pounds.

A number of the reasons for

the growing popularity of mushrooms are related and entwined.

For example, higher consumer incomes have led to heavier demand for beef—particularly steaks, which are often complemented by mushrooms.

Increased American affluence has also indirectly added to mushroom consumption by encouraging away-from-home eating, and greater use of convenience foods, gourmet, and foreign dishes.

Air-conditioning of mushroom houses not only augments seasonal supplies but also brings mushrooms within reach of a wider geographical market area.

In addition, increased imports of mushrooms make more mushrooms available, and imports are

attracted by consumers' incomes.

About 80 percent of the mushrooms we eat today, however, are grown in the United States.

In 1968-69, the U.S. industry produced 189 million pounds of mushrooms valued at \$68 million. And of this amount, 121 million pounds came from Pennsylvania—33 million pounds of this total were used fresh.

But while more Americans are discovering the culinary delights of the mushroom, more marketing problems are cropping up for mushroom growers and traders.

Fresh mushroom marketing has always had its problems. And in the past, the industry has been loathe to abandon its characteristic use of hand labor, or otherwise alter its growing and handling methods. But changes are now in the making.

Various agencies have been developed to help growers and packers in developing lower cost production techniques. The Pennsylvania State University, for example, sponsors an annual school for mushroom growers.

Also, economists have conducted cost-efficiency, market usage, and market availability studies. And research scientists have done considerable work on diseases, storage production methods, and other facets of mushroom culture and marketing. And the Department of Agriculture has several researchers in Beltsville who devote full time to mushroom problems.

However, even under the best conditions (refrigerated at 32-35 degrees Fahrenheit), fresh mushrooms last only 5 days on the store shelf. Unrefrigerated, they last 1 to 3 days. They are more expensive than processed mushrooms and hard to transport very far from where they are produced.

Irradiation may be helpful in extending shelf-life—in some cases a doubling of shelf-life occurs. This neophyte process is

still a long way off, and may not be used for another ten years, even though a cost-benefit analysis yields promising results.

Only about one-fifth of the total mushrooms eaten between 1966 and 1968 were fresh. Most were canned or an ingredient in soups.

Use of canned mushrooms went up elevenfold—from 10 million pounds (drained weight) in the 1930's, to about 115 million pounds in 1966-67. This included

### *Mushrooms Dry and High*

Most everyone's a bargain hunter at heart—and food manufacturers are no exception.

This accounts for the spurt in imports of processed mushrooms that turn up in many remanufactured forms, such as soups and heat-and-serve casseroles.

U.S. dehydrators of mushrooms, for example, don't compete pricewise with air-dried mushroom imports. They do compete qualitywise. Not only do U.S. dried mushrooms look and taste better: They rehydrate faster—important in most dehydrated foods of all kinds.

But the freeze-dried homegrown mushroom is priced 5 to 10 times higher than air-dried imports (\$12 to \$15 per pound versus \$1.50 to \$2).

The U.S. dehydrator must pay about 50 cents a pound for fresh mushrooms and he uses almost 10 pounds to yield 1 pound of freeze-dried product.

Most of our dehydrated imports are air-dried mushrooms that grow wild in Chile, whereas most of our canned mushroom imports come from Taiwan. (14)

imports of 34 million pounds (fresh weight equivalent).

Imported dried mushroom sales are going up, too, but do not approach sales of imported canned mushrooms. Domestically produced freeze-dried mushroom sales approached 1 million pounds (fresh weight equivalent) in 1967-68. Dehydrated imports

reached 10 million pounds (fresh weight equivalent)—an increase of 3 million pounds from 1959.

Expansion of the domestic mushroom industry appears adequate to meet rising demand ahead. If estimated demands are realized our domestic mushroom industry could expand its output from this year's 189 million pounds to 278 million pounds by 1976, and to 418 million by 1985—assuming import continue to supply about 20 percent of the needs.

Fresh-market volumes should reach 68 to 73 million pounds by 1976 and 103 to 110 million pounds by 1985, if they maintain their current share of sales. (13)

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### **With Easy Credit as a Come-On, Fertilizer Sales Are Moving Up**

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The fertilizer industry invested \$4 billion between 1964 and 1968 to up production facilities.

But there were a couple of "lean" years during this period when sales fell well below expectations. And by 1968 fertilizer manufacturers found themselves with a mountainous inventory of about 12 months of production, worth \$2 billion.

As a result of these and other developments, the prices of all three major fertilizer ingredients—nitrogen, phosphate, and potash—dropped. A ton of 82-percent anhydrous ammonia, commonly quoted at \$120 a ton in 1966, was priced at \$60 and lower in 1967.

When prices fell, fertilizer companies had invested too much to consider retrenchment. So they continued to maintain their production levels, as long as variable costs at least could be covered.

But obviously something had to be done to persuade farmers to buy more fertilizer.

Easy credit terms were offered to entice buyers. These terms provided for due dates ranging from

1 to 10 months, and interest charges ranging from 10 months without interest to 1 percent per month after 31 days. Even more lenient terms were available in the fall, to offset a traditional seasonal slump in fertilizer demand.

These terms obviously proved attractive to farmers. For example:

—The tonnage bought and paid for within 30 days was 12 percent less in the 1967 fertilizer marketing year than in 1966.

—Tonnage sold on terms beyond 30 days without interest was almost 5 percent higher in 1967 than in 1966. And tonnage sold was almost 40 percent lower when farmers had to pay interest for terms beyond 30 days.

—Five times as much fertilizer was sold in 1967 than in 1966 with credit terms extending beyond 90 days.

—The average tonnage used per farm went up where no interest was charged, and down where interest was charged. The longer the terms for payment, the higher the average use.

Although credit proved a useful selling tool in the short run, it has been estimated that it cost the fertilizer industry about \$160 million in 1967 (using the average length of repayment at a 6-percent interest rate).

Fertilizer manufacturers are understandably concerned about the adequacy of present credit programs. They recognize that they were born from a desperate need to increase sales quickly, and not based on market research.

But if farmers don't get as much working capital as they need from traditional lenders—commercial banks, Production Credit Associations, and the Farmers Home Administration—and as long as the fertilizer industry faces a cost-price squeeze, "credit cards" will continue to take up considerable space in the brief case of the fertilizer industry's salesmen. (15)

## Computers Reduce the Guesswork In Buying Raw Cotton for Milling

If you did a crossword puzzle by filling in the "across" words without making sure the "down" words fit too . . . or plotted chess moves without watching your opponent's queen . . . you would be in the same position as the manager of a cotton mill who never varied his buying policies, or milling processes despite fluctuations in raw cotton prices and quality.

Cotton prices go up and down within a season, and from year to year. New varieties with new "bundles" of fiber quality become available.

Also, technological changes in the production, marketing, and processing of cotton have disrupted old ways of deciding the best use for various grades of cotton.

Grade and staple length—traditional measures for predicting how certain raw cotton types will respond to processing—are no longer as valid. And price is not an effective measure either, since it is also based largely on grade and staple length.

Some farmers and ginners, for example, in order to get a higher grade rating, follow extreme cleaning practices. This hurts other fiber properties, making processing more difficult and manufacturing more expensive to cotton processors.

New methods are needed to determine the use and processing methods best suited for various cotton types.

Most mill managers have a "feel" for the raw cotton qualities which can be used efficiently in producing a particular end product. But judging by past experience, it has been virtually impossible for them to take every factor into account.

And they've usually made up for lack of more exact knowledge by allowing a large "safety"

margin. Therefore, their raw cotton and processing costs are often higher than they have to be.

In 1957, the USDA and the cotton trade jointly initiated a research program to identify and measure changes in fiber properties associated with various marketing and production practices then in effect.

Another aim was to measure effects of variations in different quantities of raw cotton on manufacturing efficiency, costs, and the quality and value of end products, and also to figure out the best and most economical uses for various raw cotton types.

The first in a series of resulting studies indicates that the computer may be the manufacturer's best friend—at least in figuring out the best policy for buying raw materials, and the relationship between fiber quality and manufacturing performance.

By using the linear programming model worked out in connection with the research, a buyer will be able to evaluate the best purchases for his mill, taking shifts in raw cotton prices and other factors into account.

(It should also prove useful for a variety of other management decisions such as optimum size of a new plant or how best to remodel an older one.)

By using the "basic planning model" the manager of a mill can formulate a flexible production schedule and cotton purchasing policy that can be adjusted as changing cotton prices make it necessary and desirable.

By introducing new market prices into the model he can estimate how much of a price change his mill can afford for cotton that processes at different rates of efficiency.

He can gauge the effects on processing costs of changes in production rates because of different raw cotton types. And he can weigh benefits of introducing a new mill mix against all costs associated with the change. (16)

## *Expedite via Airfreight*

*Winged four-legged animals have flown in legend since antiquity. But not until recently have large-scale flights of live animals and other farm products made money.*

It may be a long time before the cow jumps over the moon, but she's proved her ability to fly high over the earth.

Farm products air carried to and from the U.S. soared to new heights last year in both volume and value. And live animals—including cows and calves and sizable flocks of baby chicks—made up the biggest share of our airborne agricultural export shipments.

The value of U.S. exports and imports, both agricultural and nonagricultural, transported as

airfreight in 1968 rose to almost \$6.3 billion. This was about a fifth higher than our 1967 airborne foreign trade and nearly half again as much as it was in 1966.

Outbound U.S. shipments by air, at \$3.7 billion, were up 17 percent from the previous calendar year and were 44 percent above 1966. Imports mounted even faster to \$2.5 billion.

Farm products departing and arriving the U.S. in 1968 as commercial air cargos rose 18 percent from 1967 to reach a value of \$87 million.

But the uptrend followed the pattern of total airborne trade; exports of farm products, worth about \$45 million, did not register as sharp a gain as imports of over \$41 million.

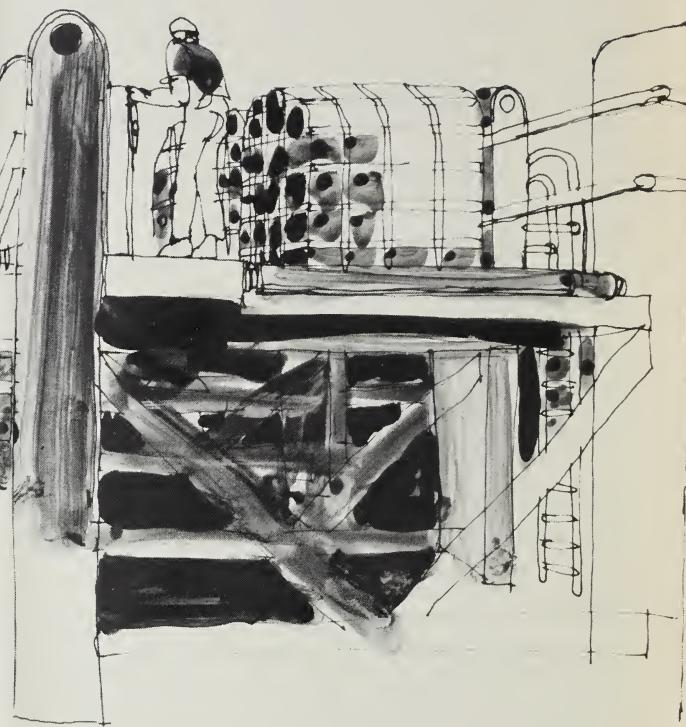
The merchandise we ship abroad by air is usually high valued.

Choice breeding cattle, delicate baby chicks, fragile flowers, quickly perishable animal products and fresh strawberries, lettuce, asparagus, and celery are among typical agricultural jet freight cargoes.

These and similar commodities accounted for nearly 90 percent of our 1968 farm products airfreighted to foreign customers.

Thus the total U.S. export volume transported by air (including nonagricultural) was less than 1 percent of the combined air and vessel export quantity.

But the value of airfreight exports was 10 percent of total export worth in 1968. Only 5 years ago the airfreight share, on



a value basis, was 6 percent.

Per pound, the average value of airfreight farm product exports was 90 cents, compared with an average value of 5 cents for commodities sent by sea.

As demand for rapid international transport service has grown, airline companies have improved their equipment and lowered their rates to give airfreight users more attractive service.

They've refurbished their commercial airfleets with larger, more efficient jet aircraft. And handling facilities, too, have been improved.

Most of the increase in jet aircraft cargos has been within the last 3 or 4 years. In 1966, 55 all-cargo aircraft were operating; in 1968, the number had climbed to 312.

#### How about the fare?

As the more efficient handling facilities and aircraft have been put to use, periodic transportation rate reductions have been made possible.

Moreover, shippers using the airlines' container programs have realized additional savings averaging 10 percent through the "containerization discount". These savings have made the use of aircraft considerably more attractive for shippers of perishable farm products.

Across-the-board, the cost of shipping freight by air has declined in recent years. But this year there's been a slight reversal of the trend, as evidenced by the rate for fresh berries.

The rate for shipping fresh strawberries to European markets was 30 cents per pound in 1963. It dropped to 27 cents in 1964, and finally to 23 cents in 1965.

In 1969, the rate from New York to London has remained at 23 cents. But the rate for berry shipments to Paris, Rome, Frankfurt, and Madrid has in general been slightly above the rate effective through mid-1967. The same

is true for certain foodstuffs, spices, and beverages.

(Countries in Western Europe rank second to Western Hemisphere nations as destinations of U.S. airfreighted farm exports. Asian countries are third.)

For the most part, however, air rates to most destinations and for

#### *Posthaste*

Chicks traveling to Paris or other cosmopolitan cities of Europe enjoy a special airline rate—providing they're not more than 72 hours old.

This year's airfreight rates per pound for shipments of baby chicks from New York City to Paris or Madrid is 92 cents, the same as in 1967. Rates to London, Frankfurt, and Rome are 86 cents, 97 cents, and 99 cents, respectively—also unchanged from 2 years ago.

It's much cheaper, of course, to airfreight hatching eggs. They still go for just 24 cents a pound to all the above cities except Rome, which takes a penny more.

Shippers of live animals other than baby chicks have to fork over a bit more, though rates haven't changed since 1967: \$1.13 per pound to London, \$1.22 to Paris or Madrid, \$1.30 to Frankfurt, and \$1.33 to Rome.

Fruit and vegetables are the airfreight bargains on a per pound rate. During the past 2 years rates for most items have remained at 16 cents to London, 17 cents to Paris or Madrid, 18 cents to Frankfurt, and 19 cents to Rome. (18)

most products remained stable from 1967 to 1969.

Rates to Japan are the major exception. They've been lower in 1969 than in 1967. Substantial reductions for floral items and nursery stock, and for hatching eggs were the major rate-reducing factors.

Japan received the largest share—\$4 million worth—of U.S. agricultural exports airshipped in 1968, and over three-fourths of

these shipments were baby chicks. The 1969 rate reductions to that country are therefore significant.

Another exception, in the opposite direction, was a rise in 1969 air rates for live animal shipments to Rio de Janeiro, Lima, Santo Domingo (Dominican Republic), and Kingston (Jamaica). But rates for other commodities sent to these marketing centers were unchanged.

Associated airfreight carriers are at present seeking approval of a new proposed rate plan. It would incorporate changes in the current commodity rates structure, with revisions according to geographic areas.

The proposed plan includes a "bulk unitization" concept to complement the present container programs, and it provides discounts from general cargo rates for large volume trans-Atlantic and Pacific shipments. These discounts would range up to 30 percent for Atlantic routes and 26 percent for Pacific routes.

About imports: The value of airfreighted foreign farm products we bought in 1968 was up 18 percent from 1967 and 33 percent above 1966.

The major items fell into the same general categories as our airlifted exports. And, as with the outbound shipments, live animals and animal products—including hides and skins—were the major import group.

In addition, sizable quantities of unmanufactured tobacco, essential oils, resinoids, and spices for perfumery, pharmaceutical and fungicidal uses were imported by air.

Most of the inbound agricultural cargos came from Central and South American countries and from Western Europe.

(Value of U.S. foreign agricultural trade, by commodity, for the past 3 years is shown in table of selected air freight items listed on following page.) (17).

## VALUE OF MAJOR AIRFREIGHTED FARM PRODUCTS ENTERING AND LEAVING U.S. RISES

Commodity	U.S. exports			U.S. imports		
	1966	1967	1968	1966	1967	1968
	1,000 dollars			1,000 dollars		
Live animals	16,883	17,700	18,384	9,246	10,723	10,347
Live poultry	(11,771)	(11,512)	(13,192)			
Meats and preparations	3,445	3,968	5,265	3,134	3,274	6,564
Beef and veal (fresh, chilled, and frozen)	( 1,725)	( 2,236)	( 3,101)	( 2,735)	( 2,826)	( 5,962)
Dairy products	162	141	194	51	73	230
Eggs in the shell	5,822	5,249	5,139	110	132	83
Grains and preparations	314	368	458	27	75	101
Fruits, nuts, and preparations	920	1,076	1,134	364	361	571
Vegetables and preparations	568	590	1,515	365	606	847
Sugar and preparations	121	112	219	2	1	7
Other food preparations	754	865	3,586	130	86	165
Coffee, tea, cocoa, and spices	295	242	379	207	402	382
Prepared animal feeds	71	32	99	11	5	2
Beverages (alcoholic and nonalcoholic)	105	99	122		8	5
Tobacco, unmanufactured	104	95	46	860	1,859	2,117
Hides and skins (minus furskins)	725	463	898	2,832	3,260	3,822
Oilseeds, nuts, and kernels	15	9	48	—	—	—
Rubber, natural	29	33	13	—	—	16
Animal hair, wool, and silk	27	53	54	781	520	471
Vegetable fibers	22	24	40	3	5	6
Animal materials, crude	979	1,004	1,370	2,143	2,788	1,986
Vegetable materials, crude	4,597	5,781	5,142	7,652	6,572	7,867
Nursery stock	( 1,807)	( 2,142)	( 1,848)	( 176)	( 181)	( 264)
Cut flowers	( 1,619)	( 2,086)	( 1,839)	( 309)	( 400)	( 598)
Animal and vegetable fats and oils	33	46	68		5	11
Essential oils and resinoids	885	1,170	925	3,223	4,217	5,829
<b>Total</b>	<b>36,876</b>	<b>38,420</b>	<b>45,098</b>	<b>31,141</b>	<b>34,972</b>	<b>41,429</b>

<sup>1</sup> Less than \$500.

## Scandinavia's Uptrending Farm Imports Reach \$1½ Billion Level

The value of agricultural imports has gone up in all four of the Scandinavian countries since 1962—rising to a total of over \$1.5 billion in 1968.

Sweden imported \$613 million worth of farm products last year—35 percent more than in calendar 1962. Denmark's were valued at \$422 million—a 16-percent rise. Norway's totaled \$265 million—up 26 percent from 1962. And Finland's \$206 million farm imports rose 18 percent.

In Sweden, major imports contributing to the increase reflected in 1968 figures were coffee, fruits and nuts, meats, animal feeds, and vegetables. Sugar, beverages, and oilseeds increased moderately. But cotton, wool, feed

grains, wheat and flour, rubber, and hides and skin imports dropped off.

The United States—outranked only by Denmark as Sweden's supplier of agricultural imports in 1968—provided mostly fruits and nuts, grains and preparations, hides and skins, vegetables, and meats.

Denmark's imports of U.S. tobacco nearly doubled between 1962 and 1968 and became our second most important farm export to that country. Feed grains and oilseeds each accounted for a third of Danish agricultural purchases from us in 1962. In 1968, feed grains represented only 12 percent, while oilseeds had risen to 44 percent.

Norway looks to the United States for the largest percentage of its farm product imports. The U.S. share was worth \$49 million in 1968. We supplied 70 percent

of Norway's oilseed imports, three-fourths of its tobacco imports, two-fifths of feed grain imports, and one-seventh of fruit, nut, wheat, and flour imports.

Finland's major farm imports are coffee, tea, cocoa, and spices. Valued at \$53 million in 1968, they made up over a fourth of the farm import total.

The United States was the third ranking agricultural supplier to Finland last year, and was the primary source of tobacco and fruits and nuts.

Here are the changes in the U.S. percentage of Scandinavia's farm imports last year, compared with 5 years earlier:

	1963	1968
Sweden	12.0	10.3
Denmark	26.6	22.4
Norway	17.8	18.4
Finland	11.3	7.2 (19)

## Crop Hopes Dampened for Some Areas of Africa and West Asia

Erratic weather—including too much or too little rain—sliced into this year's production of breadgrains and other crops across West, Central, and North Africa. East and South African farmers appear to have fared better.

Yields in parts of Morocco, Algeria, Tunisia, and Libya were severely reduced, but crop output in the United Arab Republic and the Sudan is estimated as average or better. Both countries should have more cotton available for export.

For the coming year, North Africa's anticipated breadgrain deficit will exceed 3 million metric tons. North Africa will also have exportable quantities of olive oil, rice, wine, citrus fruit, and hides and skins.

The UAR's cotton crop, in 1969, despite lower yields, is likely to be a tenth larger than last year's 435,000-ton crop. This would reverse a 4-year down-trend. Indications are that cotton acreage this year was up some 14

percent to reach 1.7 million acres. Smaller yields were attributed to severe leaf spot and some leaf-worm infestation.

In West and Central Africa, effects of last year's abnormal weather are still being felt. However, shortages should end when the 1969 crops of millet, sorghum, corn, and other food crops are harvested in October and November.

Early estimates place the 1969/70 coffee crop in the Ivory Coast 14 percent above the previous crop. But drought caused Senegalese peanut production in the 1968/69 season to plummet to the lowest level of recent years.

Due to Rhodesia's record crop, 1969 corn output in Southern Africa was up about 400,000 tons—though too much rain reduced Zambia's crop slightly, and lack of rain reduced the Republic of South Africa's harvest about 350,000 tons below last year's. Prospects are good for South Africa's winter grains—wheat, barley, oats, and rye.

The Republic's record citrus crop last year was of outstanding quality and provided alltime high export earnings. The deciduous

fruit harvest and exports were also up, and for 1969 are estimated to be even slightly larger.

East Africa's agricultural outlook for 1969 is good. Tea and cotton should show moderate gains. For cereal crops conditions are generally favorable and Kenya should have larger corn and wheat surpluses. The major cash crops are expected to equal or exceed last year's output.

West Asia has had erratic weather. Even so, the general grain situation appears good.

Turkey's wheat production will be slightly higher than last year. The cotton crop—up 10 percent in 1968—will probably be matched in 1969 despite a considerable drop in acreage.

In Iran, early estimates indicate that this year's wheat harvest fell below last year's record harvest. But cotton growers, with increased plantings, look for another record crop. Good fruit and nut harvests are expected.

A spring outbreak of rinderpest temporarily reduced Iran's milk and meat supplies, especially in the Tehran area, but veterinarians quelled the outbreak rapidly and effectively. (20)

## Liberian Rubber Snaps Back

There's a new bounce to the agricultural economy of Liberia these days, thanks to the rising volume and price of its natural rubber production.

The New York price of natural rubber, which had fallen as low as 16.29 cents a pound in February 1968 sprung back to a level above 30 cents by August 1969.

The fluctuation of the past 2 years is attributed by some sources to a combination of competition between natural and synthetic producers, market speculation, and internal problems in Malaysia—which traditionally produces about half of the world's natural rubber supply.

The recent increase in Liberian production has come about mostly because growers have been replacing old trees with new, higher yield-

ing stock that is now paying off.

Beginning with the 1970's, rubber producers anticipate a 5-percent increase a year in Liberian production.

In 1968 plantations operated under concessional terms by large international companies covered most of the 163,500 acres of the country's mature rubber tree plantings. Immature trees covered 115,400 acres, of which 69,700 acres were on private Liberian owned farms.

Liberia's 1967 exports of natural rubber amounted to 62,000 tons. Nigeria followed with 48,000 tons. Congo (Kinshasa) was third with 30,000 tons.

Traditionally, Liberia is Africa's No. 1 producer of rubber but has been eclipsed since 1959 by Nigeria. However, the civil war in Nigeria caused that country to fall behind Liberia in 1967. (21)

## Banquets in the Boonies



*"Some where in Vietnam, 1969*

*Hi!*

*. . . We've gone onto freeze-dried LRP's (Long Range Patrol) rations—much lighter, more nutritious and tastier than the C-rations we've been getting.*

*The 'Lurps' take a lot of water, of course. But with the monsoon rains that's no problem. And if you have to, you can even eat them dry like popcorn. This way they taste sort of like crunchy cereal.*

*The new food rations weigh only about half as much as our old C-rations. So when you're humping through the boonies they sure help to lighten that heavy, heavy load on your back.*

*Of course, the LRP's aren't like those meals that Mom cooks, but I can't complain."*

There's no scientific or economic terminology in this unsolicited comment by the young combat soldier in Vietnam who penned the above letter between patrol sorties. He just says he's eating the new lightweight foods and likes them for one reason or another.

Not many reports couched in such succinct terms cross the desks of food researchers in government or industry laboratories. When they do, they're gratifying evidence of a job well done.

The job in this case was to come up with a new, lightweight food packet for troops engaged in "unconventional warfare operations in remote areas."

Credit for this achievement goes to the staff of food scientists at the U.S. Army Natick Laboratories, in Massachusetts.

The U.S. Department of Agriculture helped

—not so much in the development of combat foods—but in technical studies and research on freeze-drying techniques which made the production of such food packets as the specially designed freeze-dried meals possible.

There's little doubt that many of our men in Vietnam have a logistics problem. What, for example, does a hungry soldier eat when he's dropped into a rice paddy or finds himself on an abandoned rubber plantation for a patrol in the boondocks that could extend over a period of as long as 10 days?

He's a long way from boot camp U.S.A. where he lined up for hot chow at the mess hall.

He and his buddies can't, in their situation, carry a mess kitchen on their backs.

So, they hope that somebody somewhere has sent along boxes of LRP's—each box providing 24 packets, three each of eight menus.

Each menu features one of the following meat entrees:

Chicken and rice; beef and rice; beef stew; port with scalloped potatoes; beef hash; spaghetti and meat sauce; chili con carne; and chicken stew. Reports from men in the field indicate that the latter three are especially popular.

Added to each of these pre-cooked dehydrated combination dishes is a "dessert"—which may be a cereal or fruit bar. Or maybe an old-fashioned chocolate candy bar with almonds.

Also included are freeze-dried coffee, packets of sugar and coffee whiteners, and often a cocoa beverage mix as well. A plastic spoon, matches, and toilet paper are nonfood extras.

Each flexible film-packaged Long Range Patrol food packet has over 1,000 calories.

What the soldier has to carry usually weighs about 11 ounces per packet. This is much less than about 26 ounces for the venerable C-ration, still a staple in the mili-

### 194 Years Ago

The first of our U.S. Army rations were established by Congressional Resolution on November 4, 1775:

Resolved, that a ration consists of the following kind and quantity of provisions:

1 lb. beef or  $\frac{3}{4}$  lb. pork, or 1 lb. salt fish per day;

1 lb. bread or flour, per day;

3 pints of peas or beans;

1 pint of milk per man per day, or at the rate of 1/72 of a dollar;

1 half pint of rice or one pint of Indian meal, per man per day;

1 quart of spruce beer or cider per man per day, or 9 gallons of molasses per company of 100 men per week;

3 lbs. candles to 100 men per week, for guards; and

24 lbs. soft or 8 lbs. hard soap, for 100 men per week. (23)

they have the water and a way to heat it.

Under more adverse conditions, they may have to spend a little more time fixing supper by rehydrating it with cold water.

And in situations of extreme haste or emergency, a "grunt" can just crunch a dry lunch. Not so good, but the nutrition is still there.

Another bonus of the LRP is its ability to withstand free-fall delivery.

Experience indicates that the receivers can be assured of well over 75 percent recovery—a considerable advantage in the case of 'copter supply drops to soldiers in remote areas.

Some of the rations may, of course, lodge in tree tops, water, or other places where they can't be retrieved. But few get smashed in the drop since their packaging is designed to prevent such a mishap.

Responsibility for development of the LRP was first assigned to the Department of Defense researchers in mid-1963.

These food technologists and food engineers drew upon previous work that had been conducted by USDA—including Economic Research Service studies on palatability, economic cost analyses, and projections for the freeze-drying industry.

This neophyte industry gained its initial impetus at that time. And when military rations were needed, commercial plants were geared for operation.

In 1964—the first year of use—300,000 experimental Long Range Patrol packets went to Vietnam. Volumes increased each year. Over 4 million of the packets went to Vietnam in fiscal 1967.

Larger scale, continuous shipments began in August of last year to supply the men in all branches of our military service who need food packets of this type under the circumstances for which they were designed. (22)

## Linseed Oil Treatment for Roads Promises Autoists Smoother Ride

In the winter it's the potholes. In the summer it's the construction crews repairing the potholes.

All year long, it seems to many a commuter, the road he travels to and from work is just one big obstacle course.

But thanks to a linseed oil anti-spalling compound recently developed, driving may get a little easier in the years ahead.

Spalling is the cracking, splitting, or breaking up of materials (such as concrete) due to change in temperature. When moisture penetrates the concrete and then expands as it freezes, it usually causes the freeze-thaw damage that so often plagues drivers and highway engineers.

And the widespread and increasing use of salt for de-icing highways in winter also contributes to road deterioration by scaling and pitting surfaces. This not only roughens riding but also raises highway maintenance costs.

The linseed oil anti-spalling compound combats these hazards in a seemingly simple but effective way. It's applied to the road surface in a film that's thin enough to allow moisture vapor from underneath to escape to the surface but thick enough to prevent water and salt from penetrating the concrete.

Recent reports indicate that about three-fourths of our 50 States have already accepted the product or are using it on a trial basis. In fact, estimates of total application in 1968 run as high as 4 million pounds. And in the next 5 or 10 years, use could mount to about 50 million pounds annually if the compound gains widespread acceptance.

Bridge decks and sidewalks and even concrete buildings may also come in for a linseed oil treatment in the years ahead.

Roughly half a billion tons of concrete are poured annually in this country, and about half the mixture is comprised of coarse aggregate, which is fairly large stone.

Sound stone for coarse aggregate is severely limited or nonexistent in some parts of the country—and is fast being used up in others. But unsound coarse aggregate materials—porous or alkali reactive stone—lower concrete's durability. So the next step by researchers might possibly be development of a linseed oil treatment that would prolong the life of concrete made with unsound aggregate.

These new uses of linseed oil are a few bright spots in an otherwise bleak future for flaxseed products. In paints, calking compounds, floor coverings, and oil-cloth—once major outlets for linseed oil—synthetics have captured much of the market. (24)

### King Size Taxes

U.S. smokers probably will light up 2 to 3 percent fewer cigarettes per person this year than last.

Cigarette consumption per person (18 and older) came to 4,186 in 1968. But increasing cigarette prices and smoke-health publicity apparently are causing a cutback in the number of smokers or cigarette use per smoker in 1969.

Retail prices in mid-1969 were 4 percent higher than a year earlier for filter tip, king size cigarettes. The reason: an increase in wholesale prices and higher State and local taxes.

Since the start of 1969, 17 States have raised cigarette tax rates. The weighted average State cigarette tax was 9.8 cents per pack in mid-1969—up from 9.1 cents a year earlier.

Smokers in Connecticut pay the highest State tax—16 cents per pack. But State and local taxes in New York City add up to 18 cents a pack—the highest in the country.

The Federal tax has been 8 cents per pack since 1951. (26)

## Alcoholic Beverages Draw More Spirited Response From Public

Consumption of alcoholic beverages in the United States has been on the rise in recent years. And the increase for distilled spirits has topped that registered by either wine or malt liquors.

Per person, U.S. civilians consumed 1.6 gallons of distilled drinks in 1967 (the latest year for which data are available). That was 25 percent more than in 1960. And it represented a gain of 4 percent over the quantity drunk the year before.

Wine use, at 1.0 gallon per capita, rose roughly 13 percent since the start of the decade.

Use of malt liquors topped the 1960 level by only 4 percent. Still, these brews are far and away the favorite alcoholic beverage of the country's consumers, who drank 16.8 gallons per capita in 1967.

The manufacture of alcoholic beverages is a significant outlet for several U.S. agricultural products.

In 1967, about 7.6 billion pounds of fruit—mainly grapes—were used in making wine and other liquors.

Such use accounted for about one-fifth of the total domestic use of all fruit.

In addition, about a third of the barley, a fifth of the rice, and 1½ percent of the corn used domestically became ingredients in alcoholic beverages. And the entire 30-million-pound hop crop was used in malt liquors (mainly beer).

In total, alcoholic beverages accounted for about 2½ percent of the total domestic use of all crop products in 1967.

Consumer spending on alcoholic beverages that year came to \$14½ billion (including Federal, State, and local taxes). This meant that \$1 out of each \$6.50 spent for food was for alcoholic beverages. (25)

MINIMUM LAND REQUIREMENTS FOR SPECIFIED LEVELS OF INCOME, MAJOR COTTON-PRODUCING AREAS, SOUTH CAROLINA. T. A. Burch, Farm Production Economics Division, and J. W. Hubbard, South Carolina Agricultural Experiment Station, S. C. Agr. Expt. Sta. Bull. 545.

A guide to help cotton farmers choose alternative production opportunities, especially as those opportunities are affected by changes in prices and technology. The report also is a guide to persons engaged in developing and administering public agricultural programs in the cotton-producing areas of South Carolina.

THIS IS ERS. Economic Research Service. ERS-423.

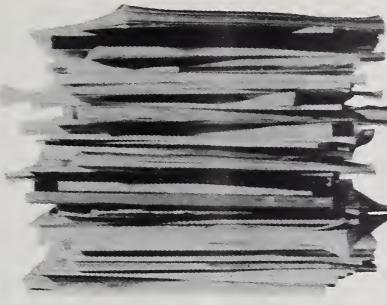
A review of the Economic Research Service, the divisions under it and their functions. The who, what, when, why and how of ERS written in nontechnical language.

SUMMARY OF UNITED KINGDOM: PROJECTED LEVEL OF DEMAND, SUPPLY, AND IMPORTS OF AGRICULTURAL PRODUCTS, 1970, 1975, AND 1980. R. E. Shepherd, Foreign Regional Analysis Division. ERS-For. 248.

A summary of major findings of a comprehensive study on United Kingdom as the world's largest importer of agricultural products.

LAND TENURE IN THE UNITED STATES DEVELOPMENT AND STATUS. D. D. Moyer, M. Harris and M. B. Harmon, Natural Resource Economics Division. AIB-338.

A description of how rural land is acquired, held, and transferred intended for nonscientists who want an overview of the origins of our land tenure system as well as information on its current status. Because a large portion of privately owned rural land is agricultural, including land for grazing and forestry, this report concentrates on tenure and use.



## RECENT PUBLICATIONS

*The publications listed here are issued by the Economic Research Service and cooperatively by the State universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective States.*

PRODUCTION AND EXPORT OF CORN AND RICE IN BRAZIL—PROSPECTS FOR THE 1970'S. R. G. Wheeler, Foreign Development and Trade Division. FAER-54.

The purpose of this study is to analyze the prospects for corn and rice output over the next 5 to 10 years in Brazil's major commercial production areas. Production and export, of course, will be greatly influenced by policies adopted with respect to maintaining minimum prices, reducing cost of inputs, extending production credit, facilitating the flow of products through marketing channels, and supporting research and extension activities.

RESERVE ACCUMULATED BY THE FEDERAL CROP INSURANCE CORPORATION, FROM 1948 THROUGH 1967: ANALYSIS BY REGION, STATE, AND CROP. H. W. Delvo, Farm Production Economics Division,

in cooperation with Nebraska Agricultural Experiment Station. Neb. Agr. Expt. Sta. Rept. No. 52.

During the period 1948 to 1967, a national reserve of about \$22.6 million was accumulated by the Federal Crop Insurance Corporation.

SUMMARY OF "LONG TERM PROJECTIONS OF AGRICULTURAL SUPPLY AND DEMAND, AUSTRALIA, 1965 AND 1980." M. E. Long, Foreign Regional Analysis Division. ERS-For. 274.

A summary of production, consumption, and marketing of Australian agricultural commodities competitive with farm products produced in the United States.

AGRICULTURAL STATISTICS FOR LOUISIANA, 1909-1968. J. B. Penn, Farm Productions Economics Division, C. O. Parker, Statistical Reporting Service and L. L. Fielder, Jr., Louisiana Agricultural Experiment Station, La. Agr. Expt. Sta. D. A. E. Res. Rept. 397.

Basic statistical data for Louisiana's primary industry—agriculture. Includes tables and graphs for income and expenses; farmland, use, and value; acreage, yield, production, disposition, price, and value of livestock and livestock products.

THE 1969 AGRICULTURAL DATA BOOK FOR THE FAR EAST AND OCEANIA. Far East Branch, Foreign Regional Analysis Division. ERS-For. 267.

This is the third annual *Agricultural Data Book* for the Far East and Oceania. Published in conjunction with *The Far East and Oceania Agricultural Situation*, it provides current and historical data on production and trade of agricultural products by countries in those areas.

These data are useful in reviewing the current agricultural situation in major food deficit areas of the world.

POTENTIAL AGRICULTURAL PRODUCTION AND RESOURCE USE IN IOWA. J. A. Sharples, Farm Production Economics Division, and E. O. Heady and M. M. Sherif, Iowa Agricultural Experiment Station, Iowa Agr. Expt. Sta. Res. Bull. 569.

An estimate of the production or supply potential of Iowa agriculture which is part of a regional study designed for this purpose. Two levels of efficiency are examined—average technical efficiency and advanced technical efficiency. The pattern of output, resources used, and levels of farm income are analyzed under both conditions.

THE LATIN AMERICAN FARMER. J. A. Hopkins, Foreign Regional Analysis Division. ERS-For. 257.

While concentrating on industrial development, most Latin American nations have been slow to improve agricultural opportunities and the farmer's lot.

This report points out the gap between agricultural and industrial growth in the Latin American nations.

APPLICATION OF AN ECONOMIC MODEL FOR EVALUATING GOVERNMENT PROGRAM COSTS FOR RICE. W. R. Grant, Farm Production Economics Division, in cooperation with the Texas Agricultural Experiment Station. Tex. Agr. Expt. Sta. Dept. Tech. Rept. 69-1.

An application of an analytical

### When Fowl Is Fare

The turkeys you lift from the oven this Thanksgiving may seem heavier than they did last year. They are.

The average live weight of the birds marketed between January and July of this year was 16.8 pounds—2.3 percent heavier than last year.

This means that 1969 turkey meat sales are likely to register more poundage on the meat counter scales, though this year's turkey production—at 106.4 million birds—is about the same as last year.

Producers are favoring heavy breed turkeys. About 1.8 million more of them were raised this year than last. Light breed birds declined by about the same number. They made up 13 percent of the turkey population in '68, but only 11 percent in '69.

Oddly enough, in Minnesota—our major turkey producing State—there's been a shift away from heavy breeds. Minnesota produced 3.4 million heavy breeds for the platter in 1953, 13.6 million in 1965, but 10.1 million in 1968.

Through September, turkey producers received an average 20.5 cents a pound (live weight) for their turkeys—1 to 2 cents more per pound than last year. Prices were at their lowest in February.

But the Thanksgiving-Christmas rush on turkeys, along with little change in production and smaller stocks, will probably strengthen farm prices—pushing them above the 21.1-cent average producers got in those months last year. (27)

econometric model of estimated supply and demand relationships for rice. The model permits the estimation of domestic and export quantity-price relationships and the estimation of the effects of assumed changes in government programs on the cost to the U.S. Treasury and the cost to rice consumers.

PRELIMINARY ECONOMIC ANALYSIS OF THE OZARK GATEWAY DISTRICT. Area Analysis Branch, Economic Development Division. ERS-421.

This report details recent economic trends in the Ozark Gateway District that should prove helpful to local planners as a starting point in program planning and implementation. It also contains a summary of the economic situation emphasizing various aspects which will need to be considered if programs are to aid in achieving full growth potential of the area.

HAIL INSURANCE: AN ANALYSIS OF POLICY FORMS IN NEBRASKA, 1969. H. W. Delvo, Farm Production Economics Division, and J. D. Greer, Nebraska Agricultural Experiment Station. Nebr. Agr. Expt. Sta. Rept. 51.

Nebraska farmers may insure against hail losses by purchasing protection through insurance companies and/or by maintaining financial and physical reserves to offset hail loss.

### Numbers in parentheses at end of stories refer to sources listed below:

PHOTO CREDITS: Cover and page 18, U.S. Army, 1st Air Cavalry Division (Airmobile), 8th Cavalry. Courtesy of THE CAVALAIR field newspaper staff.

1. Ronald D. Lacewell and Vernon Eidman (SM); 2. Dairy Situation, DS-327 (P); 3. Robert R. Miller, "Regional Changes in Milk Production and Marketings," Dairy Sit., DS-326 (P); 4. Wayne D. Rasmussen (SM); 5. Cotton Situation, CS-242 (P); 6. Fred T. Cooke, Jr. and W. L. Spurgeon (SM); 7. Wylie D. Goodsell, Robert C. Latimer, and Daphene E. Tippett, Costs and Returns: Commercial Egg Producing Farms, New Jersey, 1968, FCR-64 (P); 8. ERS Task Group, Mechanization in the Flue-Cured Tobacco Industry With Emphasis on Human Resource Adjustment (M); 9. Lloyd D. Bender, Rex Campbell, and Bernal Green, People Attracted to Four Ozark Communities, Mo. Agr. Expt. Sta. AE Paper UMC 1969-38 (P\*); 10. Robert O. Coppedge and J. Wayne McArthur, Rural Community Development and Income Multipliers (M\*); 11. C. Hobson Bryan, Alvin L. Bertrand and George S. Tracy (SM); 12. Thomas

F. Hady, Taxation Problems in Rural-Urban Fringe Areas (S); 13. Kermit Bird, Some Economic Projections of the U.S. Mushroom Industry (S); 14. Marketing and Transportation Situation, MTS-174 (P); 15. Agricultural Finance Review, Vol. 30, July 1969 (P); 16. Frank A. Tillman and Preston E. LaFerney, Generating an Optimal Purchasing Policy for Raw Cotton (M); 17 and 18. Joseph Corley, "U.S. Agricultural Trade by Air Carrier Increased in 1968," For. Agr. Trade of U.S., Nov. '69 (P); 19. Foreign Agricultural Trade of U.S., Oct. '69 (P); 20 and 21. The Agricultural Situation in Africa and West Asia Midyear Review, ERS-For. 278 (P); 22 and 23. Kermit M. Bird (SM); 24. Clarence A. Moore, Flaxseed: Past Trends and Future Prospects (M); 25. National Food Situation, NFS-129 (P); 26. Tobacco Situation, TS-129 (P); 27. Poultry and Egg Situation, PES-258 (P).

Speech (S); published report (P); unpublished manuscript (M); special material (SM); \*State publications may be obtained only by writing to the experiment station or university cited.

# ECONOMIC TRENDS

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1968		1969		
			YEAR	SEPTEMBER	JULY	AUGUST	SEPTEMBER
<b>Prices:</b>							
Prices received by farmers	1910-14=100	242	261	268	282	279	275
Crops	1910-14=100	223	229	231	224	220	214
Livestock and products	1910-14=100	258	288	300	332	330	328
Prices paid, interest, taxes and wage rates	1910-14=100	293	354	356	374	373	374
Family living items	1910-14=100	286	335	338	352	352	354
Production items	1910-14=100	262	292	292	305	304	304
Parity ratio		83	74	75	75	75	74
Wholesale prices, all commodities	1957-59=100	—	108.7	109.1	113.3	113.4	113.6
Industrial commodities	1957-59=100	—	109.0	109.2	112.4	112.8	113.2
Farm products	1957-59=100	—	102.2	102.8	110.5	108.9	108.4
Processed foods and feeds	1957-59=100	—	114.1	115.3	122.0	121.5	121.3
Consumer price index, all items	1957-59=100	—	121.2	122.2	128.2	128.7	—
Food	1957-59=100	—	119.3	120.4	126.7	127.4	—
<b>Farm Food Market Basket:</b> <sup>1</sup>							
Retail cost	Dollars	983	1,118	1,128	1,190	1,197	\$1,196
Farm value	Dollars	388	435	443	497	495	\$483
Farm-retail spread	Dollars	595	683	685	693	702	\$713
Farmers' share of retail cost	Percent	39	39	39	42	41	\$40
<b>Farm Income:</b> <sup>2</sup>							
Volume of farm marketings	1957-59=100	—	126	147	125	127	145
Cash receipts from farm marketings	Million dollars	32,247	44,386	4,348	3,838	3,988	4,600
Crops	Million dollars	13,766	18,847	2,025	1,455	1,577	2,100
Livestock and products	Million dollars	18,481	25,539	2,323	2,383	2,411	2,500
Realized gross income <sup>3</sup>	Billion dollars	—	51.1	51.8	—	—	55.3
Farm production expenses <sup>3</sup>	Billion dollars	—	36.3	36.5	—	—	38.8
Realized net income <sup>3</sup>	Billion dollars	—	14.8	15.3	—	—	16.5
<b>Agricultural Trade:</b>							
Agricultural exports	Million dollars	4,105	6,228	470	500	438	—
Agricultural imports	Million dollars	3,977	5,028	463	434	408	—
<b>Land Values:</b>							
Average value per acre	1957-59=100	—	170	—	—	—	179
Total value of farm real estate	Billion dollars	—	193.7	—	—	—	202.6
<b>Gross National Product:</b> <sup>3</sup>							
Consumption <sup>3</sup>	Billion dollars	457.3	865.7	876.4	—	—	942.3
Investment <sup>3</sup>	Billion dollars	294.2	536.6	544.9	—	—	581.6
Government expenditures <sup>3</sup>	Billion dollars	68.0	126.3	125.2	—	—	140.9
Net exports <sup>3</sup>	Billion dollars	92.4	200.3	202.5	—	—	217.8
	Billion dollars	2.7	2.5	3.6	—	—	2.0
<b>Income and Spending:</b> <sup>4</sup>							
Personal income, annual rate	Billion dollars	365.3	687.9	701.1	751.4	757.5	759.8
Total retail sales, monthly rate	Million dollars	17,098	28,309	28,902	29,090	29,411	29,697
Retail sales of food group, monthly rate	Million dollars	4,160	6,106	6,155	6,275	6,456	—
<b>Employment and Wages:</b> <sup>4</sup>							
Total civilian employment	Millions	63.9	75.9	76.0	77.9	78.2	78.1
Agricultural	Millions	5.7	3.8	3.7	3.6	3.6	3.5
Rate of unemployment	Percent	5.8	3.6	3.6	3.6	3.5	4.0
Workweek in manufacturing	Hours	39.8	40.7	41.0	40.7	40.6	40.7
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	3.01	3.04	3.19	3.20	3.23
<b>Industrial Production:</b> <sup>4</sup>							
1957-59=100	—	165	165	175	174	174	—
<b>Manufacturers' Shipments and Inventories:</b> <sup>4</sup>							
Total shipments, monthly rate	Million dollars	28,745	50,310	51,441	54,908	54,814	—
Total inventories, book value end of month	Million dollars	51,549	88,579	87,109	93,166	93,649	—
Total new orders, monthly rate	Million dollars	28,365	50,597	51,877	55,309	54,338	—

<sup>1</sup> Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. <sup>2</sup> Annual and quarterly data are on 50-State basis. <sup>3</sup> Annual rates seasonally adjusted second quarter. <sup>4</sup> Seasonally adjusted. <sup>5</sup> Preliminary. <sup>6</sup> As of November 1, 1968. <sup>7</sup> As of March 1, 1969.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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### Everyman's Food Guide

Just off the press is a "popular encyclopedia" of food that will interest anyone who eats.

*Food for Us All* is the title. It's the 1969 Yearbook of Agriculture and is oriented to all consumers—poor, affluent, and in-betweeners—in both country and city.

The scope of the book is most timely because of growing concern that there is still hunger in our land of plenty: that many have too little to eat while many eat unwisely yet too well, as Secretary of Agriculture Clifford M. Hardin points out in the foreword.

In 400 pages including a 32-page color photo section, the Yearbook tells the whole story of food—how it's produced and marketed, how everyone can use it to best advantage, and how they can stretch their food dollars.

The Yearbook, 70th since USDA began the series in 1894, has 46 feature-type chapters grouped in three sections—"Food From Farm to You," "Buying and Cooking Food," and "Food and Your Life."

Among provocative subject titles are "The Pedigreed Pickle," "The Water's Harvest," "100 Million Times a Day, Americans Eat Out," and "Shedding Light on Prices We Pay for Our Food."

USDA does not give out or sell the Yearbook. Members of Congress distribute a limited supply, free, to the public. Copies are for sale by the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402. Price is \$3.50.

# THE FARM INDEX

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